2.3" 58.3mm DOT-MATRIX DISPLAY

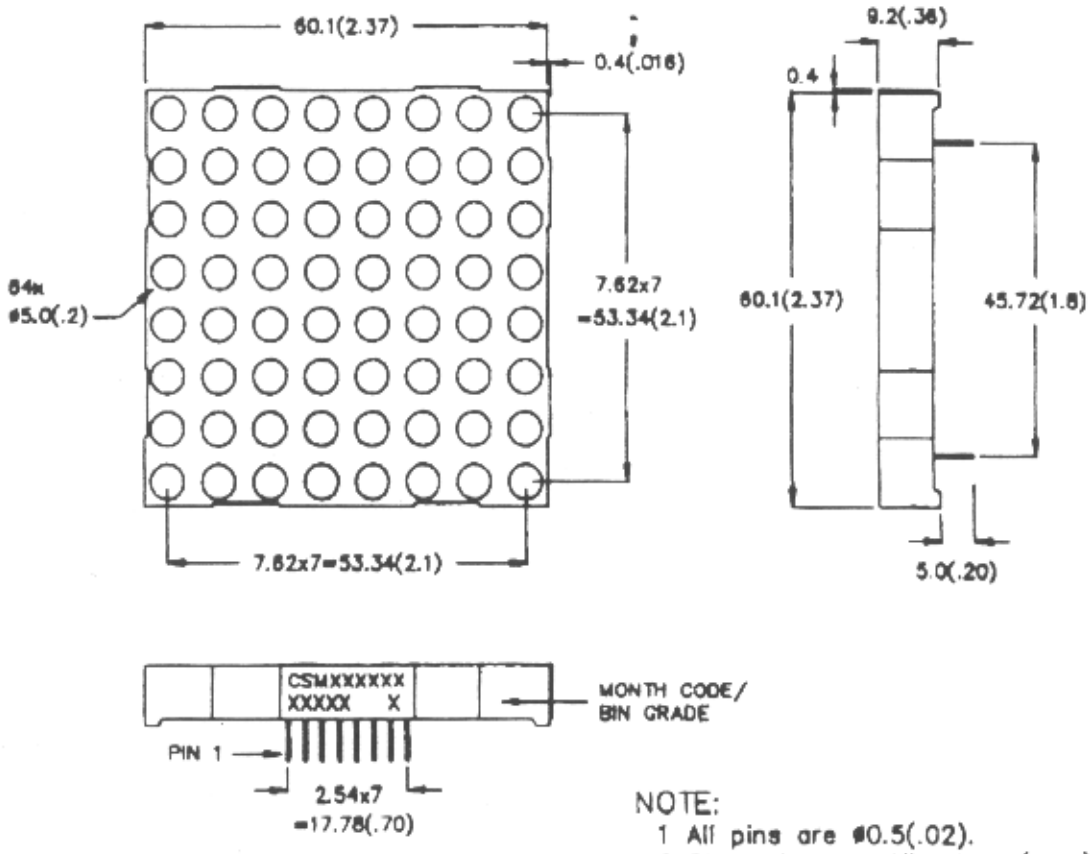
CSM-88211/88221 SERIES

612-332-8481)

Selection Guide

PART NUMBER				DESCRIPTION	
ORANGE RED	SUPERBRIGHT RED	YELLOW GREEN	YELLOW	COLUMN	ROW
CSM-88211E	CSM-88211D	CSM-88211G	CSM-88211Y	Anode	Cathode
CSM-88221E	CSM-88221D	CSM-88221G	CSM-88221Y	Cathode	Anode

Mechanical Dimensions

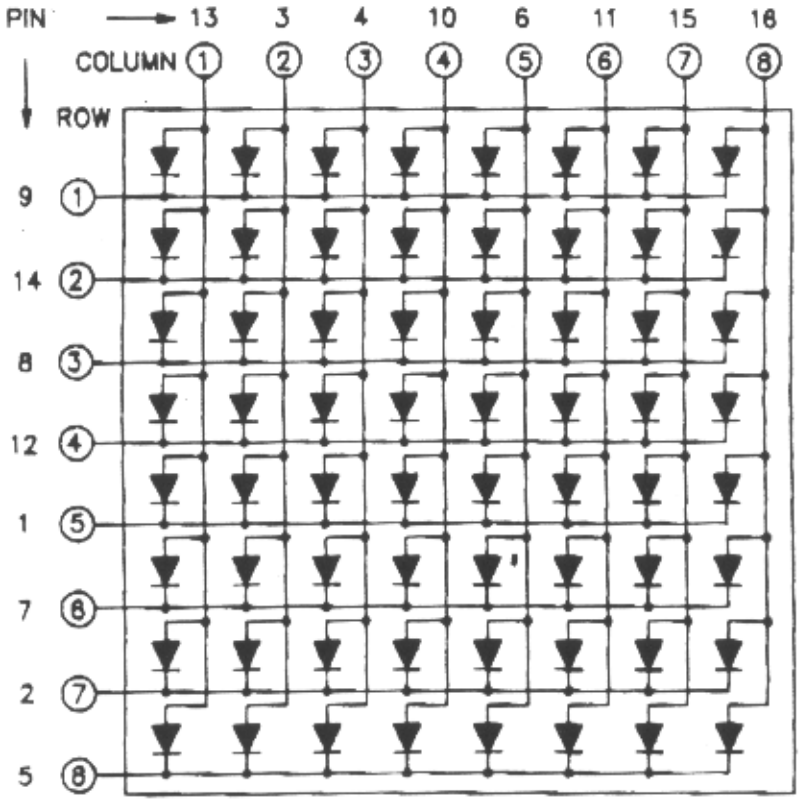


NOTE:
1. All pins are ø0.5(.02).
2. Dimension in millimeters (inch), tolerance is ±0.25 (.01) unless otherwise noted.

5x7 display CC/AR

Typical Internal Equivalent Circuit

CSM-88211



CSM-88211			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Cathode Row 5	9	Cathode Row 1
2	Cathode Row 7	10	Anode Column 4
3	Anode Column 2	11	Anode Column 6
4	Anode Column 3	12	Cathode Row 4
5	Cathode Row 8	13	Anode Column 1
6	Anode Column 5	14	Cathode Row 2
7	Cathode Row 6	15	Anode Column 7
8	Cathode Row 3	16	Anode Column 8

CSM-88221			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Anode Row 5	9	Anode Row 1
2	Anode Row 7	10	Cathode Column 4
3	Cathode Column 2	11	Cathode Column 6
4	Cathode Column 3	12	Anode Row 4
5	Anode Row 8	13	Cathode Column 1
6	Cathode Column 5	14	Anode Row 2
7	Anode Row 6	15	Cathode Column 7
8	Anode Row 3	16	Cathode Column 8

ORANGE RED (GaAsP/GaP)
GENERAL SPECIFICATIONS

Features

- Low Power Requirement.
- High Brightness.
- Good Uniformity.
- Suitable for Dot-matrix and Unmeric/alphanumeric Display.

Absolute Maximum Ratings (T_A=25°C)

Parameter	Symbol	ORANGE RED	Unit
Power dissipation per dice	P_{AD}	70	mW
Derating Linear form 25°C per dice	—	0.33	mA/°C
Continuous forward current per dice	I_{AF}	25	mA
Peak current per dice (duty cycle 1/10, 10KHz)	I_{PF}	90	mA
Reverse voltage per dice	V_R	5	V
Operating temperature (Note 1)	Topr	−25 to +85	°C
Storage temperature (Note 1)	Tstg	−25 to +85	°C
Solder temperature 1/16 inch below seating plane for 3 seconds at 250°C			

Note 1: For taping-type display, maximum temperature is +60°C.

Electro-optical Characteristics (T_A=25°C)

Parameter	Symbol	Test Condition	MIN.	TYP.	MAX.	Unit
Forward voltage, (1 die per segment/dot)	V_F	I_F=20mA	—	2.0	2.8	V
Luminous intensity	Iv	I_F=20mA	—	4000	—	ucd
Peak emission wavelength (Note 2)	λP	I_F=20mA	—	635	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	I_F=20mA	—	45	—	nm
Reverse current	I_R	V_R=5V	—	—	100	uA

Note 2: The actual wavelength for different display might vary slighty, due to different tape or resin used.

Typical Electro-optical Characteristic Curves

(25°C Free Air Temperature Unless Otherwise Specified)

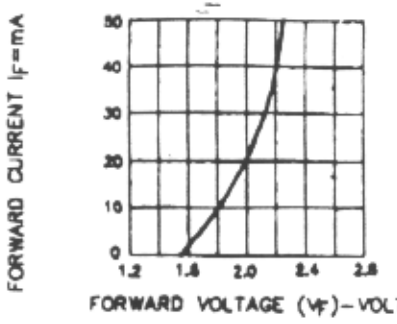


Fig. 1 FORWARD CURRENT VS. FORWARD VOLTAGE.

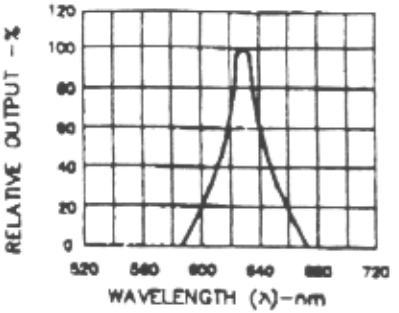


Fig. 2 SPECTRAL RESPONSE

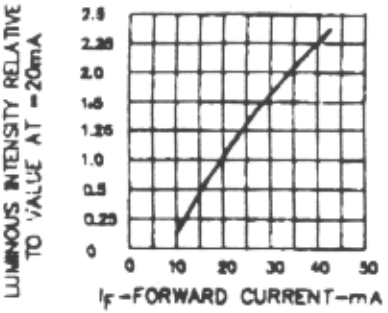


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

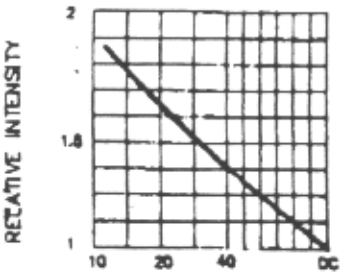


Fig. 5 LUMINOUS INTENSITY VS. DUTY CYCLE

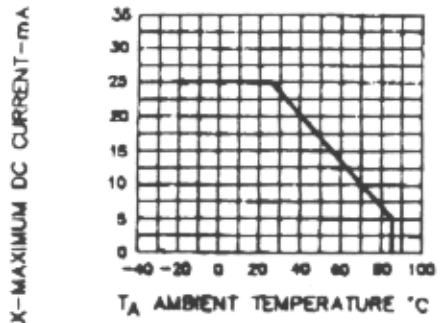


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

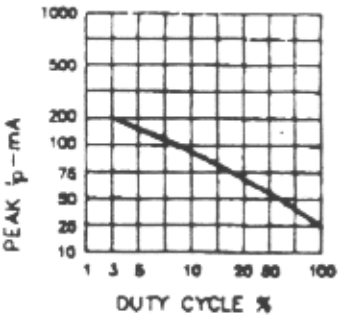


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)

Notes:

1. Luminous Intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L Eclairage) eye-response curve.
2. Clean only in water, isopropanol, ethanol, freon 1F or TE (or equivalent).